

REMARKS:

The examiner is thanked for the Final Office Action dated December 18, 2002, and for the courtesy of a telephone interview on February 5, 2003, at which time Robertshaw (U.S. Patent No. 4,471,498) and Atkins et al. (U.S. Patent No. 3,314,081) were discussed. No agreement was reached during the telephone interview.

In response to the examiner's Office Action, applicants have amended the specification and claims 27, 30, 31, 33, 36, 37, 40-42 and 48. Claims 28, 29, 32, 34, 46 and 50 have been canceled without prejudice. No new matter has been added. Furthermore, the amended claims do not present any new issues requiring a further search by the examiner because they represent claims previously submitted and/or rewritten in independent form.

The examiner has objected to the specification, stating that "188" on page 22, line 25 should be --198--. Applicants have amended the specification accordingly, and request that the amended paragraph (with corrected reference numeral 198 replacing number 188) replace the existing paragraph beginning on page 22, line 24 and ending on page 23, line 6, of the specification. (See Appendix A).

The examiner has also objected to the specification as failing to provide proper antecedent basis for "detector" as set forth in claims 27, 42 and 48. Applicants have amended the claims to replace "detector" with --sensor--. As set forth in the specification, the control panel 32 determines whether to permit operation of a control valve 28 subsequent to receipt of a demand signal from the associated sensor 36. (See Specification, page 13, lines 1-3; see also Figure 2 and reference numeral 36 therein). Applicants assert that the amended claims overcome the examiner's objection.

The examiner has rejected claims 27, 34, 48 and 49 as anticipated by Robertshaw, and claims 27, 48 and 49 as anticipated by Atkins et al. Applicants have amended claim 27 to incorporate the limitations of claims 28, 29, 32 and 34. Claims 28, 29, 32 and 34 have been cancelled without prejudice. It is submitted that amended claims 27, 48 and 49 distinguish over Robertshaw and Atkins. Neither of these references discloses a microprocessor for delaying operation of a fixture for an adjustable selected period of time after actuation of a sensor, as in claim 27 of the present application. In the present invention, operation of a fixture is delayed for a selected period of time. (See Specification, page 4, lines 13-19, and page 14, lines 1-2). This selected period is not fixed. Rather, the delay may be adjusted as required, based upon time of day, and between cells and cell blocks as desired. (See Specification, page 14, lines 12-14, wherein time period may be adjusted as described for adjustability of maximum usage rate). Thus, a user may adjust, and subsequently change, the period of delay as desired.

By contrast, Robertshaw provides for delay timing circuits D1 and D2, which control the frequency of fixture operations within a predetermined period. (See '498 patent, column 2, lines 32-51). The timing circuits include resistors and transistors, which create a predetermined delay. (See '498 patent, column 3, lines 43-52). Although Robertshaw provides for a predetermined delay period, this period is not adjustable. It may only be selected upon installation of the water control system. However, once installed, the selected time delay may not be adjusted. Therefore, Robertshaw does not anticipate applicants' invention, which has an adjustable selected period of time for delaying fixture operation.

Atkins et al. also fails to disclose a controller that delays operation of a fixture for an adjustable selected period of time. Rather, the '081 patent provides for a circuit 18 which delays operation of a fixture, and includes a series of resistors and capacitors. (See '081 patent, column 2, lines 52-64). The circuit 18 (as described in the '081 patent, column 5, lines 6 – column 6, line 2) includes a predetermined delay time. However, this delay period is not adjustable. To the contrary, once the system disclosed in the '081 patent is installed, the delay period remains the same, and may not be adjusted without replacing the system or a component thereof.

Applicants' invention for an adjustable delay period, wherein the delay for fixture operation may vary from cell block to cell block, and/or time of day. (See Specification, page 13, lines 22-25). Water systems developed for prisons must accommodate unique issues and problems encountered in such facilities. (See Specification, pages 2-3). Therefore, adjustability of the selected period of delay for fixture operation is important. Systems disclosed by Robertshaw and Atkins et al. do not provide for such flexibility.

In addition, neither Robertshaw nor Atkins discloses a method of controlling water flow in a plumbing system wherein operation of a valve operably associated with a fixture is delayed from a location remote from the fixture, thereby delaying operation of the fixture, for an adjustable selected period of time subsequent to actuation of a sensor, as in claim 48 of the present invention. As such, applicants submit that the amended claims overcome the anticipation rejections, and respectfully request that same be withdrawn.

The examiner has also rejected claims 34 and 36 as obvious over Atkins et al., and claim 36 as obvious over Robertshaw. Applicants have cancelled claim 34 without

prejudice. Amended claim 36 depends from claim 27, and therefore also provides for a microprocessor. Neither Robertshaw nor Atkins et al. suggest or teach a water control system having a microprocessor, as claimed by applicants. Therefore, applicants submit that amended claim 36 (depending from claim 27) overcomes the examiner's rejection.

The examiner has rejected claims 28-33 and 42 as obvious over Atkins et al. and Bellamy. Claims 30, 31 and 33 all depend from claim 27. As noted above, claim 27 has been amended to incorporate the limitations of claims 28, 29, 32 and 34. Applicants submit that amended claim 27, and claims 30, 31 and 33 depending therefrom, overcome the examiner's rejection. Bellamy fails to disclose a water control system having a microprocessor for delaying operation of one of a plurality of fixtures for an adjustable selected period of time after actuation of one of a plurality of sensors, as set forth in amended claim 27, in combination with the limitations of claims 30, 31 and/or 33 (i.e. a plurality of solenoid valves, capacitance or push button sensors, and a microprocessor proximate the valves, respectively). Rather, Bellamy discloses a cistern flushing system, wherein a plurality of fixtures are flushed based on a timing device T. Each fixture is not independently controlled. Therefore, the controller disclosed in Bellamy simply causes the sequential operation of all fixtures. (See '147 patent, column 6, lines 58-67). In addition, the system disclosed in Bellamy operates continuously. Bellamy fails to disclose a controller that controls each one of a plurality of fixtures, as claimed by applicants. Neither Atkins et al. nor Bellamy disclose a system that controls fixture operation for an adjustable selected period of time, or that includes a microprocessor for delaying operation.

The examiner has rejected claims 37-39 and 43-44 as obvious over Atkins et al. and Bellamy, in view of Morris et al. Morris et al. discloses a system having an overflow inhibiting circuit (i.e. a shut-off switch). Although the use of indicator lights is referenced in Morris et al., it fails to disclose a controller with an adjustable time delay as claimed by applicants. Claim 37 has been redrafted in independent form, and includes all of the limitations of amended claim 27. In addition, none of these references provide for a water control system having a microprocessor as claimed in the present application, in combination with a plurality of fixtures, valves, sensors and indicators, as claimed by applicants. Atkins et al., Bellamy and Morris et al. also fail to teach or suggest such features in combination. Therefore, amended claims 37, 38 and 39 overcome the examiner's rejection.

Claims 43-44 depend from claim 42, which have been amended to include the limitations of claim 46. None of the references provide for a controller that determines which one of a plurality of sensors is requesting operation, causes a delay in operation for an adjustable selected period of time subsequent to actuation of one of a plurality of sensors, and includes both a master switch for disabling operation of all of the fixtures, as well as a plurality of indicators for indicating fixture operation. These features, in combination, are not suggested by the cited references.

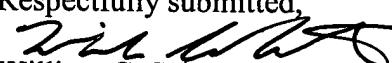
Claims 40, 41 and 45 have been rejected as obvious over Atkins et al., Bellamy, Fraser and Book. Claims 40 and 41 depend from claim 37. Neither Fraser nor Book teach or suggest all of the limitations of claims 37, 40 and 41. The examiner asserts that a disabling switch is notoriously well known. However, the cited references fail to teach or suggest the limitations of claim 37 (as noted above) in combination with such a

feature. Likewise, the cited references do not teach or suggest a water control system having the combined features of claim 45 (incorporating limitations from claims 42-44).

Applicants request that the proposed amendments be entered given the amended claims avoid all of the rejections set forth in the Final Office Action, and thus the proposed amendments place the application in condition for allowance or in better condition for appeal. In addition, all of the limitations in the amended claims have been considered by the examiner, given claims 27, 42 and 48 have been amended to incorporate previously pending dependent claims. Claim 37 has been re-written in independent form, and also includes the limitations of amended claim 27. The remaining amendments have been made to conform the claims to the amended independent claims, or to overcome the examiner's objection regarding use of the term "detector". No new matter issues have been raised, nor do the amended claims require further consideration or search.

Applicants assert that the amended claims overcome all of the examiner's objections and rejections. Entry and reconsideration of the amended claims is respectfully requested, and allowance of same is earnestly solicited. It is believed that no fee is due with this submission. Should that determination be incorrect, then please debit Account No. 50-0548 and notify the undersigned.

Respectfully submitted,



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APPENDIX A: Marked Up Version of Specification

The specification has been amended beginning on page 22, line 24 to page 23, line 6, as follows:

--Figure 12 illustrates a showerhead 186 mounted to chase wall [188] 198. Push button 190, which corresponds with one of the push button assemblies P, is in electrical connection with control box 192 through electrical leads and plugs as earlier described. Solenoid operated valve 194 is likewise an electrical connection to corresponding means with the control box 192 in order to permit water to flow from line 196 to showerhead 186. The valve 194 may be manufactured by James Hardie Industries Group as Model #700.75.--

APPENDIX B: Marked Up Version of Claims

The claims have been amended as follows:

27. A water control system for prisons, comprising:

a plurality of fixtures [fixture], each one of said plurality of fixtures selected from the group consisting of a sink, a toilet, and a shower;

a source of water;

a plurality of valves [valve], each one of said plurality of valves interposed between [said fixture and] said source of water and a corresponding one of said plurality of fixtures for controlling water flow therebetween;

a plurality of sensors [detector], each one of said plurality of sensors operably associated with one of said [fixture] plurality of fixtures for requesting operation of said fixture; and

a [controller] microprocessor operably associated with said plurality of valves [valve] and said plurality of sensors [detector], said [controller] microprocessor for delaying operation of one of said plurality of fixtures [fixture] for an adjustable selected period of time after actuation of one of said [detector] sensors, and said microprocessor being remote from said plurality of fixtures.

30. The control system of claim [29] 27, wherein said plurality of valves is solenoid operated.

31. The control system of claim [29] 27, wherein said plurality of [detectors] sensors is selected from the group consisting of capacitance sensors and push buttons.

33. The control system of claim [32] 27, wherein said [controller] microprocessor is proximate said plurality of valves.

36. The control system of claim 27, wherein said [controller] microprocessor causes a delay of operation of one of said [fixture] fixtures for about two minutes.

37. [The control system of claim 29, further comprising] A water control system for prisons, comprising:

a plurality of fixtures, each one of said plurality of fixtures selected from the group consisting of a sink, a toilet, and a shower;

a source of water;

a plurality of valves, each one of said plurality of valves interposed between said source of water and a corresponding one of said plurality of fixtures for controlling water flow therebetween;

a plurality of sensors, each one of said plurality of sensors operably associated with one of said plurality of fixtures for requesting operation of said fixture;

a microprocessor operably associated with said plurality of valves and said plurality of sensors, said microprocessor for delaying operation of one of said plurality of fixtures for an adjustable selected period of time after actuation of one of said sensors; and

a plurality of indicators for indicating operation of said plurality of fixtures, wherein each one of said plurality of indicators corresponds to one of said plurality of fixtures

40. The control system of claim [29] 37, further comprising a plurality of switches, wherein each one of said switches disables operation of a corresponding one of said plurality of fixtures.

41. The control system of claim [29] 37, further comprising a master switch for disabling operation of said plurality of fixtures.

42. A water control system for prisons, comprising:

a plurality of fixtures;

a source of water;

a plurality of valves for controlling water flow, each one of said plurality of valves interposed between a corresponding one of said plurality of fixtures and said source of water;

a plurality of [detectors] sensors operably associated with said plurality of fixtures, each one of said plurality of [detectors] sensors for requesting operation of one of said plurality of fixtures; [and]

a controller remotely located from said plurality of fixtures and operably associated with said plurality of valves and said plurality of [detectors] sensors, said controller comprising a first plurality of leads for receiving demand signals from said plurality of [detectors] sensors, each demand signal for requesting operation of one of said plurality of fixtures, a second plurality of leads for transmitting control signals, each control signal for initiating operation of one of said plurality of fixtures, said controller determining which one of said plurality of [detectors] sensors is requesting operation and causing a delay in operation for an adjustable selected period of time subsequent to actuation of one of said plurality of [detectors] sensors; and

a master switch for disabling operation of said plurality of fixtures.

48. A method of controlling water flow in a prison plumbing system, comprising the steps of:

initiating a demand signal from a [detector] sensor operably associated with a plumbing fixture;

determining which [detector] sensor and associated fixture is requesting operation upon receipt of the demand signal;

delaying operation of a valve operably associated with the fixture from a location remote from the fixture, thereby delaying operation of the fixture, for an adjustable selected period of time subsequent to actuation of the [detector] sensor; and

permitting operation of the fixture after expiration of the adjustable selected period of time.